Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method comprising:

receiving input data containing return loss values of a communication trunk within a communications network, said return loss values measured at each frequency of a plurality of frequencies within a predetermined frequency band;

calculating an optimum transhybrid balance impedance from said input data, said calculating including:

comparing said return loss values contained within said input data to each return loss profile of a plurality of stored return loss profiles, said each return loss profile corresponding to a transhybrid balance impedance of said communication trunk; and

calculating an absolute difference between said input data and said each return loss profile for said each frequency; and

transmitting said optimum transhybrid balance impedance to a user for further processing.

2. (Canceled)

3. (Currently Amended) The method according to claim 1 [[2]], further comprising:

applying a weighting function to said absolute difference between said input data and said each return loss profile to obtain corresponding weighted return loss values;

summing said resulting weighted return loss values for said each transhybrid balance impedance to obtain a corresponding return loss factor; and

selecting an optimum transhybrid balance impedance based on said corresponding return loss factor.

4. (Original) The method according to claim 3, wherein said selecting further comprises:

scaling said corresponding return loss factor for said each transhybrid balance impedance;

displaying said corresponding return loss factor for said user; and

selecting a highest return loss factor corresponding to said optimum transhybrid balance impedance.

5. (Original) The method according to claim 4, wherein said displaying further comprises plotting said corresponding return loss factor as a bar graph.

6. (Original) The method according to claim 4, wherein said corresponding return loss factor is displayed in a table of return loss factor values.

7. (Original) The method according to claim 1, wherein said frequency band includes said plurality of frequencies between 200 and 3400 Hertz.

8. (Original) The method according to claim 1, wherein said measured return loss values are 2-wire return loss values directly related to an input impedance of said communication trunk.

9. (Original) The method according to claim 3, wherein applying said weighting function further comprises:

emphasizing said absolute difference between said input data and said each return loss profile contained within a voice signal frequency band of said predetermined frequency band.

10. (Currently Amended) A system comprising:

means to receive input data containing return loss values of a communication trunk within a communications network, said return loss values measured at each frequency of a plurality of frequencies within a predetermined frequency band;

means to calculate an optimum transhybrid balance impedance from said input data;

<u>means for comparing said return loss values contained within said input data to each return loss profile of a plurality of stored return loss profiles, said each return loss profile corresponding to a transhybrid balance impedance of said communication trunk;</u>

<u>means for calculating an absolute difference between said input data and said each return loss profile for said each frequency</u>; and

means to transmit said optimum transhybrid balance impedance to a user for further processing.

11. (Canceled)

12. (Currently Amended) The system according to claim <u>10</u> [[11]], further comprising:

means for applying a weighting function to said absolute difference between said input data and said each return loss profile to obtain corresponding weighted return loss values;

means for summing said resulting weighted return loss values for said each transhybrid balance impedance to obtain a corresponding return loss factor; and

means for selecting an optimum transhybrid balance impedance based on said corresponding return loss factor.

13. (Original) The system according to claim 12, further comprising:

means for scaling said corresponding return loss factor for said each transhybrid balance impedance;

means for displaying said corresponding return loss factor for said user; and

means for selecting a highest return loss factor corresponding to said optimum transhybrid balance impedance.

14. (Original) The system according to claim 13, further comprising means for plotting said corresponding return loss factor as a bar graph.

15. (Original) The system according to claim 13, wherein said corresponding return loss factor is displayed in a table of return loss factor values.

16. (Original) The system according to claim 12, further comprising:

means for emphasizing said absolute difference between said input data and said each return loss profile contained within a voice signal frequency band of said predetermined frequency band.

17. (Currently Amended) A system comprising:

a memory to store a plurality of return loss profiles, each return loss profile corresponding to a transhybrid balance impedance of a communication trunk within a communications network; and

a processor coupled to said memory to receive input data containing return loss values of said communication trunk, said return loss values measured at each frequency of a plurality of frequencies within a predetermined frequency band, to calculate an optimum transhybrid balance impedance from said input data, and to transmit said optimum transhybrid balance impedance to a user for further processing, wherein said processor further compares said return loss values contained within said input data to each return loss profile of said plurality of stored return loss profiles, and calculates an absolute difference between said input data and said each return loss profile for said each frequency.

18. (Canceled)

19. (Currently Amended) The system according to claim 17 [[18]], wherein said processor further applies a weighting function to said absolute difference between said input data and said each return loss profile to obtain corresponding weighted return loss values, sums said resulting weighted return loss values for said each transhybrid balance impedance to obtain a corresponding return loss factor, and selects an optimum transhybrid balance impedance based on said corresponding return loss factor.

20. (Original) The system according to claim 19, wherein said processor further scales said corresponding return loss factor for said each transhybrid balance impedance, displays said corresponding return loss factor for said user, and selects a highest return loss factor corresponding to said optimum transhybrid balance impedance.

21. (Original) The system according to claim 20, wherein said processor further plots said corresponding return loss factor as a bar graph.

22. (Original) The system according to claim 20, wherein said processor further displays corresponding return loss factor in a table of return loss factor values.

23. (Original) The system according to claim 17, wherein said frequency band includes said plurality of frequencies between 200 and 3400 Hertz.

24. (Original) The system according to claim 17, wherein said measured return loss values are 2-wire return loss values directly related to an input impedance of said communication trunk.

25. (Original) The system according to claim 19, wherein said processor further emphasizes said absolute difference between said input data and said each return

loss profile contained within a voice signal frequency band of said predetermined frequency band.

26. (Currently Amended) A machine-readable medium containing executable instructions, which, when. executed in a processing system, cause said processing system to perform a method comprising:

receiving input data containing return loss values of a communication trunk within a communications network, said return loss values measured at each frequency of a plurality of frequencies within a predetermined frequency band;

calculating an optimum transhybrid balance impedance from said input data, said calculating including:

comparing said return loss values contained within said input data to each return loss profile of a plurality of stored return loss profiles, said each return loss profile corresponding to a transhybrid balance impedance of said communication trunk; and

calculating an absolute difference between said input data and said each return loss profile for said each frequency; and

transmitting said optimum transhybrid balance impedance to a user for further processing.

27. (Canceled)

28. (Currently Amended) The machine-readable medium according to claim 26 [[27]], wherein said method further comprises:

applying a weighting function to said absolute difference between said input data and said each return loss profile to obtain corresponding weighted return loss values;

summing said resulting weighted return loss values for said each transhybrid balance impedance to obtain a corresponding return loss factor; and

selecting an optimum transhybrid balance impedance based on said corresponding return loss factor.

29. (Original) The machine-readable medium according to claim 28, wherein said selecting further comprises:

scaling said corresponding return loss factor for said each transhybrid balance impedance;

displaying said corresponding return loss factor for said user; and

selecting a highest return loss factor corresponding to said optimum transhybrid balance impedance.

30. (Original) The machine-readable medium according to claim 29, wherein said displaying further comprises plotting said corresponding return loss factor as a bar graph.

31. (Original) The machine-readable medium according to claim 29, wherein said displaying further comprises displaying said corresponding return loss factor in a table of return loss factor values.

32. (Original) The machine-readable medium according to claim 28, wherein applying said weighting function further comprises:

emphasizing said absolute difference between said input data and said each return loss profile contained within a voice signal frequency band of said predetermined frequency band.